

FIG. 1

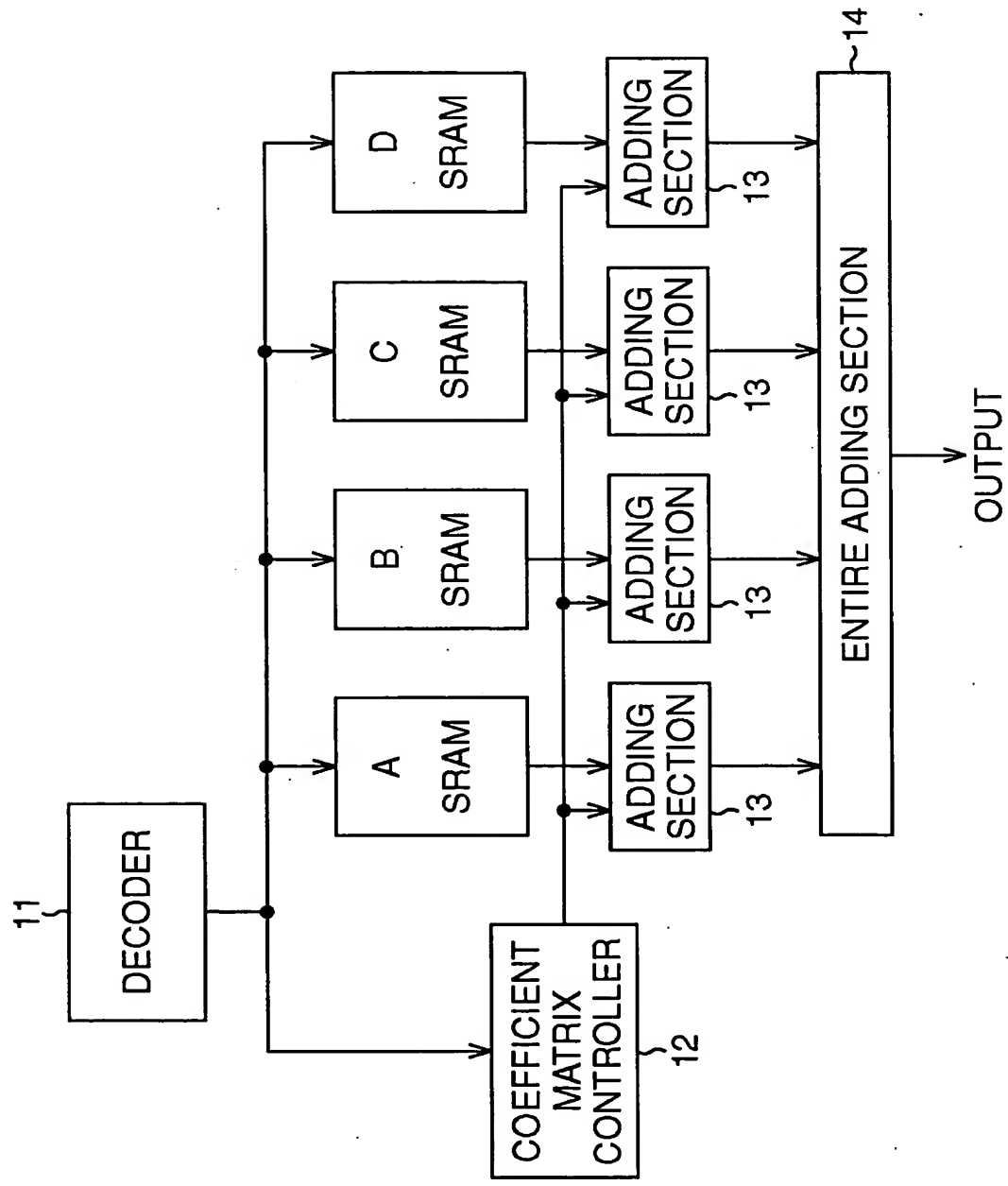


FIG. 2

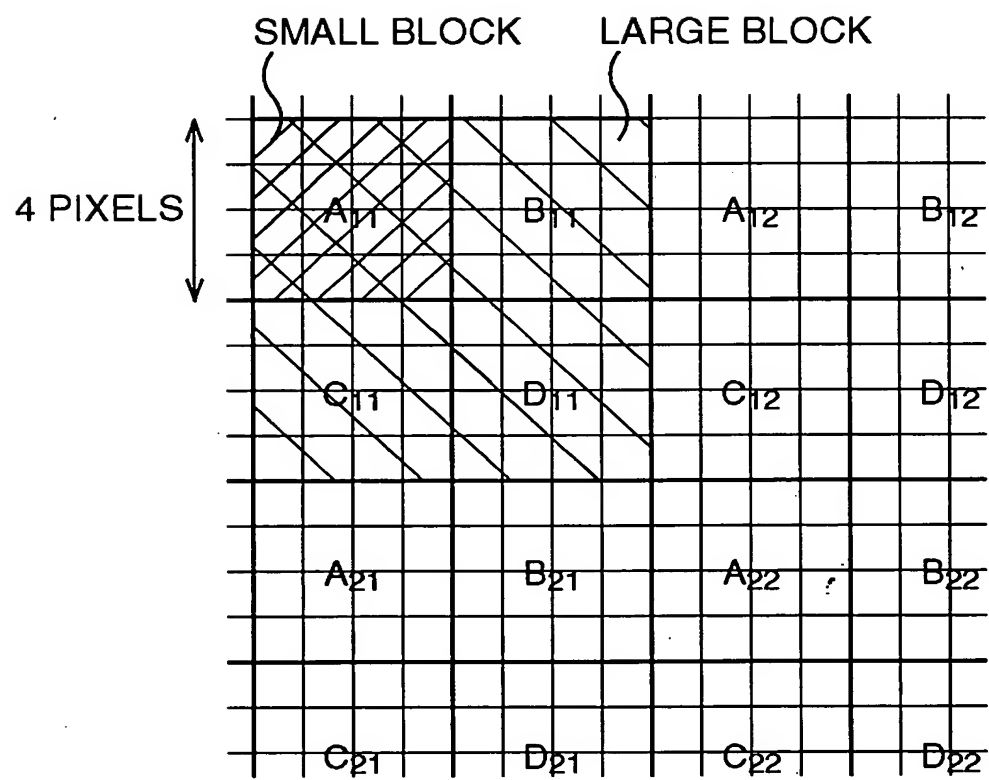


FIG. 3

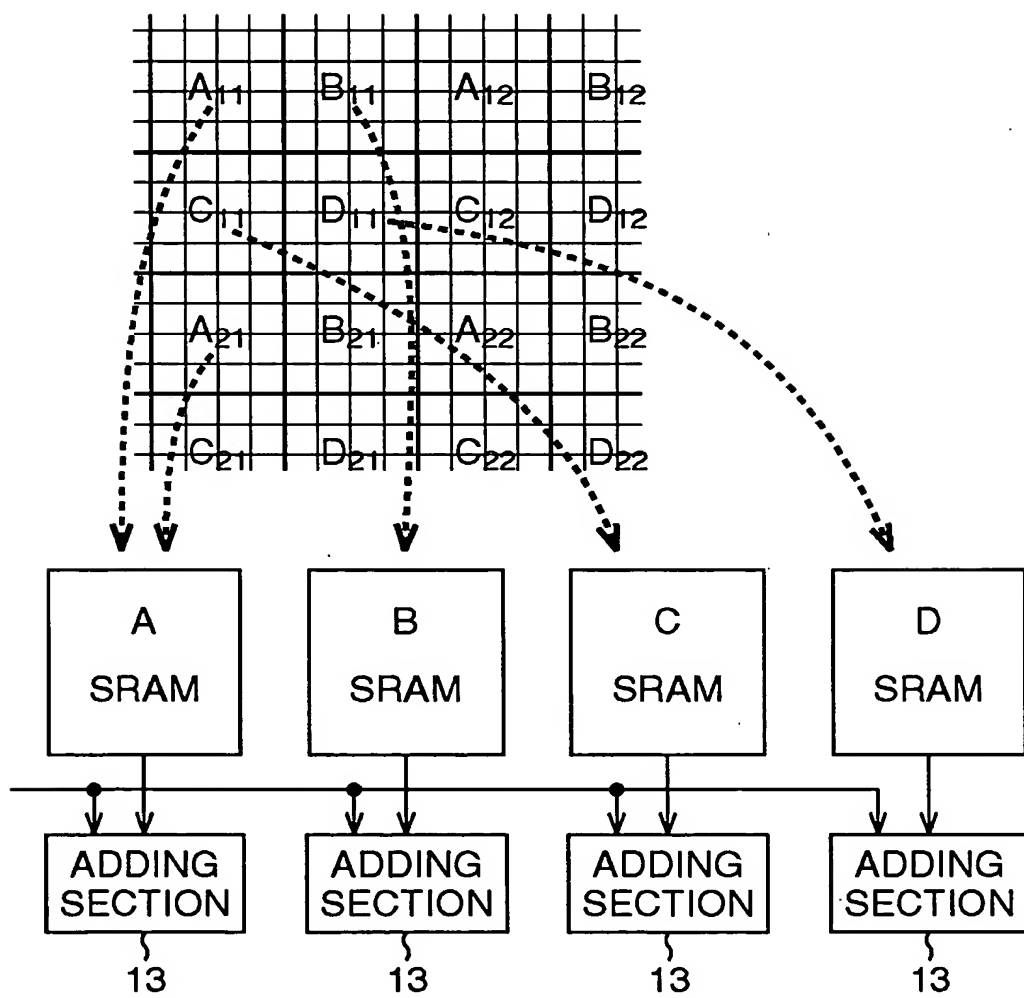


FIG. 4

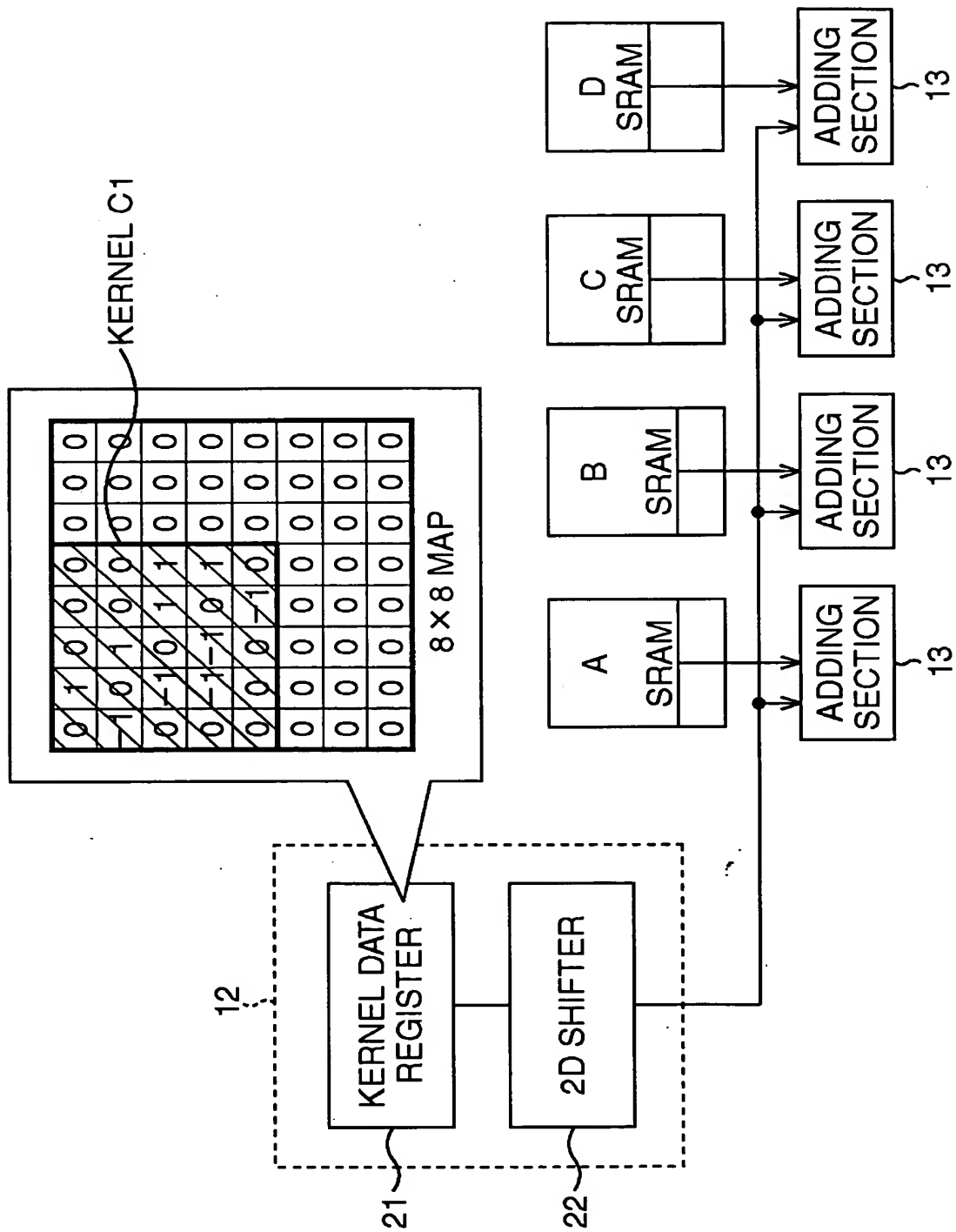


FIG. 5

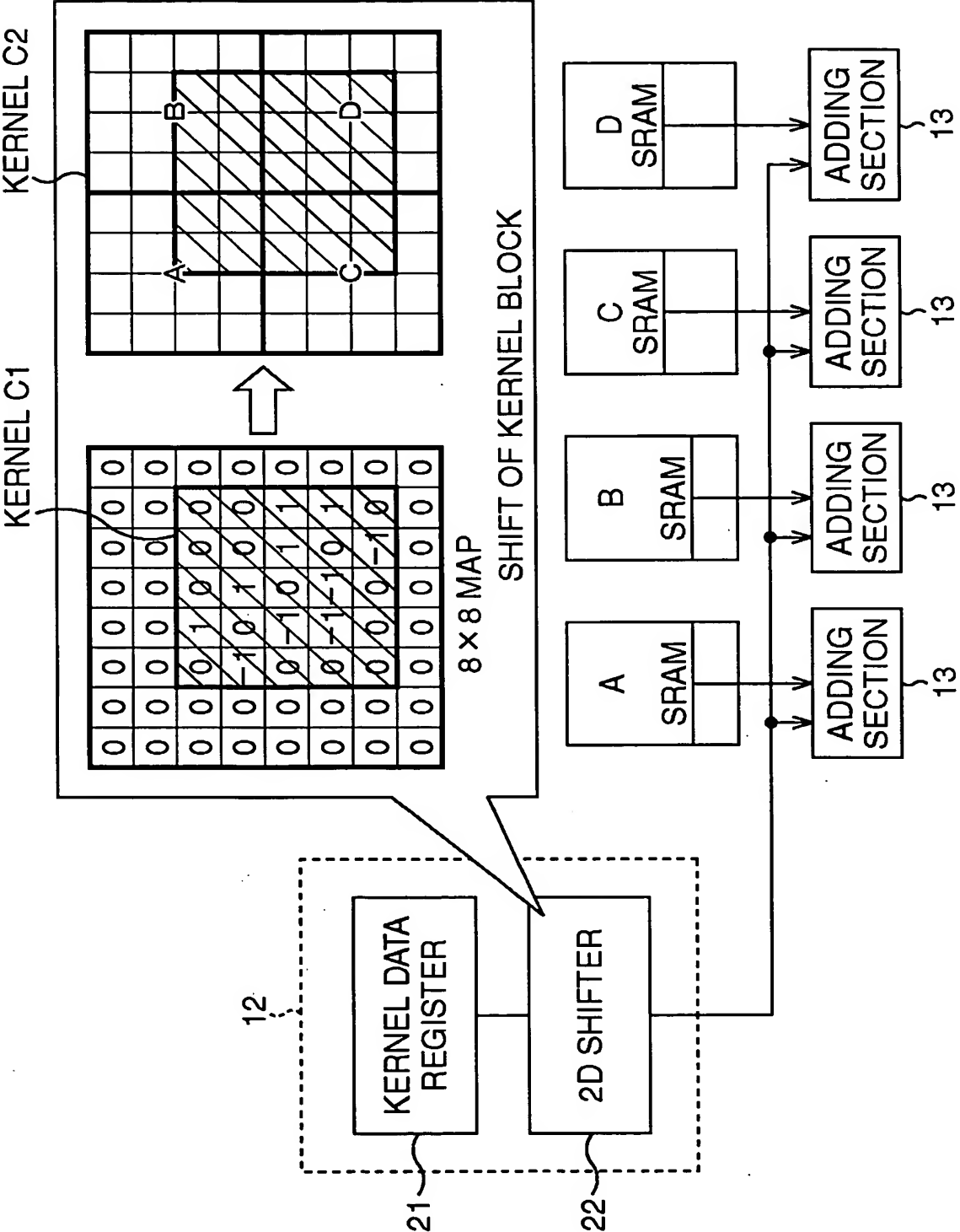


FIG. 6

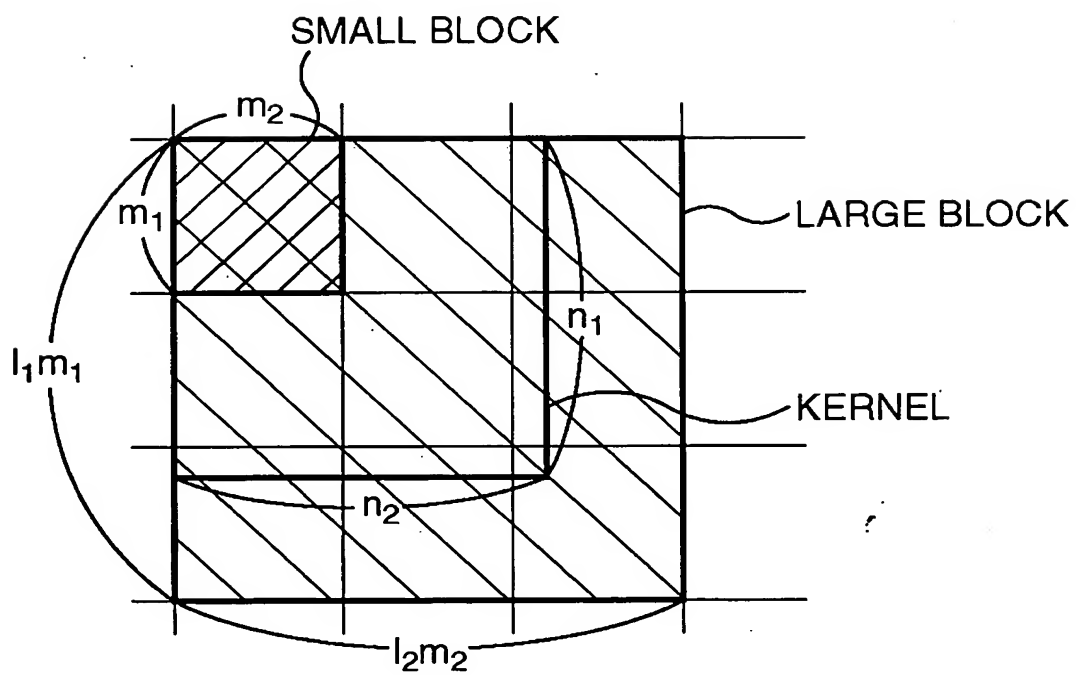


FIG. 7

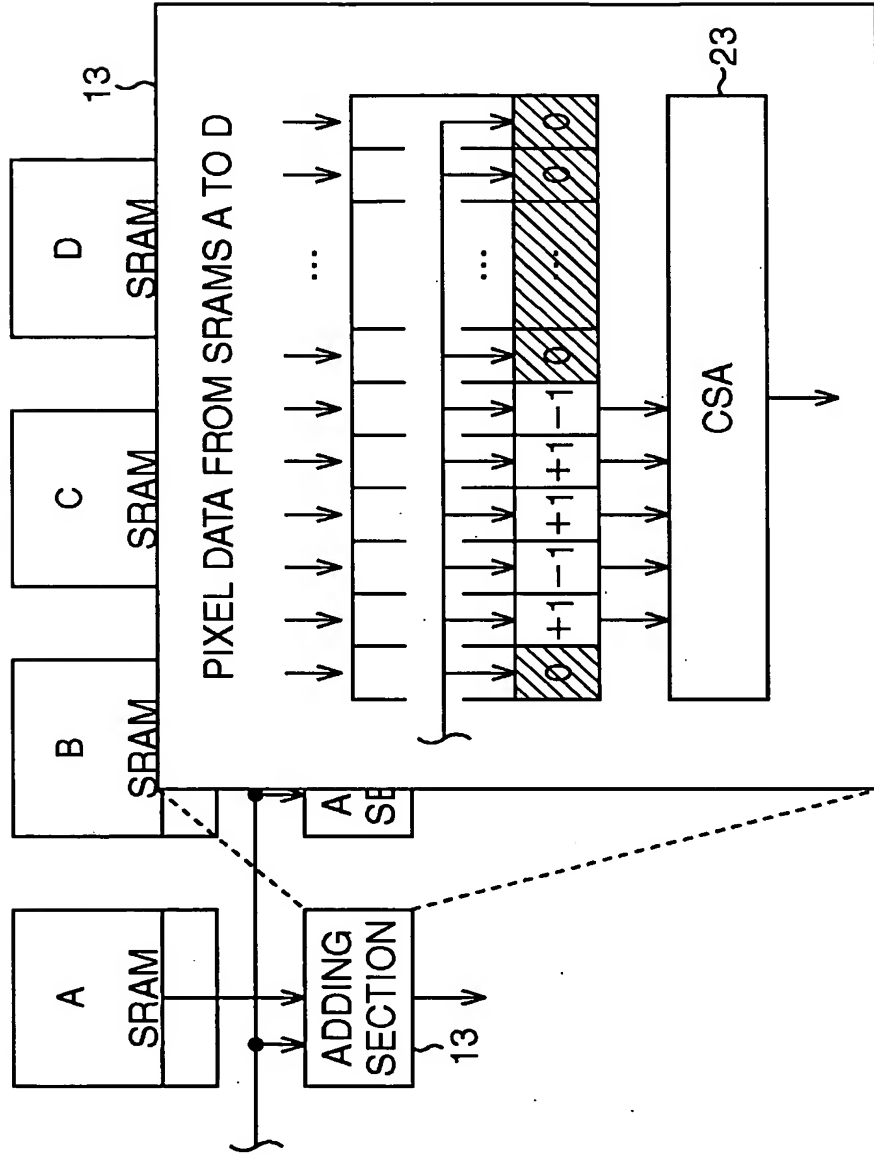


FIG. 8



Original
(128x128 pixel)



(a) 3x3 Mean Filter

1	1	1
1	1	1
1	1	1

Division by 9



(c) Vertical Edge Enhancement

0	1	0	-1	0
0	1	0	-1	0
0	1	0	-1	0
0	1	0	-1	0
0	1	0	-1	0

Division by 10
Offset 128



(b) 5x5 Mean Filter

1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1

Division by 25



(d) Gaussian Filter
($\sigma=1.4$)

1	2	2	2	1
2	4	5	4	2
2	5	7	5	2
2	4	5	4	2
1	2	2	2	1

$$\left(\begin{array}{ccccc} 1 & 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 1 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 \end{array} \right) + \left(\begin{array}{ccccc} 0 & 1 & 1 & 1 & 0 \\ 1 & 0 & 0 & 0 & 1 \\ 1 & 0 & 1 & 0 & 1 \\ 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 1 & 0 \end{array} \right) \times 2 + \left(\begin{array}{ccccc} 1 & 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 \end{array} \right) \times 4$$

Division by 71

FIG. 9 PRIOR ART

